PRACTITIONER RESEARCH

https://e-journal.uum.edu.my/index.php/pr

MAKING MEANING WITH E-PORTFOLIOS: A QUALITATIVE AND COMPARATIVE EXPLORATION OF STUDENTS' REFLECTIONS

Brahim Machaal

Ibn Zohr University, Morocco

b.machaal@uiz.ac.ma

ABSTRACT

E-portfolios are ubiquitously utilised in higher education as tools to enhance student reflection and showcase learning. This study investigates how undergraduate and graduate students perceive the impact of e-portfolios on their reflective practice and how these perceptions relate to their future educational and professional goals. Through qualitative content analysis of students' reflections, key themes identified, including the significance of self-assessment, skill development, and career readiness. The findings indicate that while both groups value the reflective aspects of e-portfolios, graduate students connect these activities more explicitly to their professional identities and career trajectories, whereas undergraduate students tend to focus on immediate learning outcomes and skill acquisition. These insights underscore the necessity for tailored e-portfolio implementation strategies that address the distinct needs and aspirations of different student populations.

Keywords: E-portfolio evaluation; students' reflections; digital literacy; professional readiness.

INTRODUCTION

In recent years, electronic portfolios (e-portfolios) have gained prominence in higher education as effective tools for promoting student engagement and fostering reflective practices. These digital repositories move beyond traditional paper-based portfolios, adopting technology to provide flexible and interactive spaces for students to showcase competencies, document skill development, and articulate their learning journeys (Stefani, Mason and Pegler, 2007; Barrett, 2010). Furthermore, e-

portfolios have emerged as a pivotal tool for students to develop essential skills for the digital age (Challis, 2005). To that end, educational aids present an opportunity to bridge the divide between academia and professional practice by providing students with tangible tools to demonstrate their skills to potential employers (Hartnell-Young and Morriss, 2007).

This form of educational technology integration has significantly transformed higher education landscape, fostering innovative learning strategies (Huang et al., 2020; Koehler and Mishra, 2009) and assessment methods (Boud and Falchikov, 2007). Above all, e-portfolios facilitate reflection by enabling students to revisit their work, analyse strengths and weaknesses, and track growth over time (Moon, 2013). The integration of reflective practice within e-portfolios is crucial for fostering deeper learning and promoting self-awareness (Schön, 1983). By engaging in reflective activities, students are encouraged to critically examine experiences, analyse learning processes, and identify areas for improvement (Boud, Keogh and Walker, 1985). This process of self-assessment and critical reflection is essential for developing metacognitive skills, which are crucial for lifelong learning and professional success (Flavell, 1979).

While the benefits of e-portfolios in promoting reflection and professional development have been widely acknowledged, further research is needed to explore the nuanced perspectives of diverse student populations. Specifically, understanding how undergraduate and graduate students, with their varying levels of academic experience and professional aspirations, perceive and engage with e-portfolios is essential. The present study comes to address this issue and contribute to filling a gap in the literature. Situated within a practitioner research framework, the study allows the researcher, as an educator actively involved in e-portfolio implementation, to directly inform practice and curricula development based on student experiences. The study aims to explore how undergraduate and graduate students perceive the impact of e-portfolios on their reflective practice and how these perceptions relate to their future educational and professional goals. The central research questions guiding this investigation are: how do undergraduate and graduate students perceive the impact of e-portfolios on their reflective practice, and how do these perceptions relate to their future educational and professional goals?

By analysing student reflections on their e-portfolio experiences, this study aims to provide valuable insights for educators seeking to maximize the pedagogical benefits of e-portfolios and tailor implementation strategies to meet the specific needs of diverse student populations. Furthermore, it is anticipated that the findings of this research will contribute to a deeper understanding of the role of e-portfolios in fostering reflective learning and supporting students' transition to future educational and professional pathways.

Research Questions

The study seeks to determine and compare the perceptions of undergraduate and graduate students regarding how this tool affects their educational and professional prospects and objectives. To collect the relevant data, the research centres around the following questions: how do undergraduate and graduate students perceive the impact of e-portfolios on their reflective practice, and how do these perceptions relate to their future educational and professional goals?

LITERATURE REVIEW

The literature review for this paper explores existing research on e-portfolios in education, focusing on their benefits, challenges, best practices, and student perceptions and attitudes. It also examines the differences in learning experiences and technology adoption between undergraduate and graduate students, with a specific focus on Morocco, where this research took place. The review concludes with a description of the gap in the literature this research aims to address, and seeks to raise awareness about e-portfolio integration in higher education.

E-portfolios have evolved from simple digital collections to dynamic tools for learning, assessment, and professional development (JISC, 2014; Mathew et al., 2019). They provide platforms for students to organise work, reflect on learning processes, and showcase skills (Abrami et al., 2011). Their key benefits include encouraging deeper reflection by documenting progress, analysing strengths and weaknesses, and articulating learning journeys (Moon, 2013). In fact, there are related demonstrated significant positive correlations between e-portfolio implementation and enhanced student learning outcomes, particularly in areas of reflective practice and self-regulated learning. This fosters metacognitive skills and promotes self-regulated learning (Zimmerman, 2002; Broadbent and Poon, 2015).

E-portfolios also positively influence learning outcomes by promoting active learning, critical thinking, and problem-solving (Baran, Correia and Thompson, 2011; Lorenzo and Ittelson, 2005). As a matter of fact, Slade et al. (2020) emphasise the importance of digital ethics and ethical digital literacy in ePortfolio practice as well as the potential of these platforms to cultivate critical digital literacies. Their research argues that e-portfolios are essential for contemporary professional environments, highlighting their role in developing digital citizenship competencies. E-portfolios also offer rich assessment evidence, allowing holistic evaluation of student learning (Stefani, Mason and Pegler, 2007), and streamline feedback through ongoing student-instructor dialogue (Yorke, 2016). Additionally, e-portfolios serve as powerful tools for professional development, showcasing skills to potential employers and documenting professional growth (Hartnell-Young and Morriss, 2007; Ward and Moser, 2019).

However, challenges with e-portfolio implementation do exist. Students and instructors may encounter technical difficulties related to platform usability and digital literacy (Lorenzo and Ittelson, 2005; Van Deursen and Van Dijk, 2014). Adequate support and training are therefore crucial to address these issues. Creating and maintaining e-portfolios also requires time from both students and faculty, making effective integration into the curriculum essential (Chickering and Gamson, 1987). Establishing clear assessment criteria remains a challenge, highlighting the need to communicate rubrics and assessment tools transparently. Best practices emphasise clear learning objectives, meaningful reflective activities, ongoing feedback, and strong curricular integration (Chickering and Gamson, 1987; Darling-Hammond, Hyler and Gardner, 2017).

Given these difficulties, it is worth exploring what research on student perceptions of technology in education, including e-portfolios has revealed. While many appreciate the benefits for showcasing work and skill development, concerns about time commitment, technical challenges, and perceived purpose exist (Buzzetto-Hollywood, 2010; Meyer et al., 2010). Student engagement is influenced by perceived relevance, ease of use, and instructor support. Positive perceptions correlate with increased motivation and improved learning (Anim-Wright, 2024). But differences in learning experiences and technology adoption between undergraduate and graduate students are well-documented.

Graduate students, with more higher education experience and professional focus, may approach e-portfolios differently (Buzzetto-More, 2010). They may view them as tools for showcasing expertise and demonstrating career readiness (Sibson et al, 2022), while undergraduates may focus on documenting coursework and developing foundational skills (Lorenzo and Ittelson, 2005). These findings are complemented by research suggesting differences in digital literacy and technology adoption between undergraduate and graduate students (Kennedy et al., 2008). These differences highlight the need for tailored implementation strategies when adopting e-portfolios for students at different educational levels.

E-portfolios in Moroccan Higher Education

Given that this study took place in a Moroccan university, zooming in on related research in this country is required to situate the research in its immediate context. While e-portfolio research is growing globally, studies specifically focusing on Morocco in particular, are limited. Existing studies in this context often focus on broader technology integration in education or specific uses of e-portfolios in fields like language learning (Bourkoukou and El Bachari, 2016). Some local research has begun to explore e-portfolios in higher education within specific disciplines (Ait Mama, 2023). However, these studies often focus on implementation challenges or pedagogical strategies, rather than in-depth explorations of student perceptions and the comparative experiences of undergraduate and graduate students. Undoubtedly, there is a lack of research investigating the connection between e-portfolio use, reflective practice, and professional identity and or career readiness within Moroccan higher education.

Past Literature

This study addresses a significant gap by providing an in-depth exploration of undergraduate and graduate student perceptions of e-portfolios in the Moroccan higher education context. Through a comprehensive thematic analysis (Braun and Clarke, 2006) of student reflections, this research identifies key themes, challenges, and benefits associated with e-portfolio integration in higher education settings. Specifically, the focus is on how students perceive the impact of e-portfolios on their reflective practice and how these perceptions relate to their future educational and professional goals. By examining the intersections of technology-enhanced learning (Koehler and Mishra, 2009), reflection (Boud and Falchikov, 2007), and academic development (Tynjälä et al., 2012), this study provides valuable insights for educators, instructional designers, and policymakers seeking to optimise e-portfolio implementation and enhance student learning outcomes. Additionally, by comparing undergraduate and graduate experiences, the study will provide valuable insights for educators in Morocco on effectively implementing and utilising e-portfolios to enhance learning, promote reflection, and support professional development.

This research is particularly relevant given the increasing emphasis on digital literacy and employability skills in the Moroccan higher education system through bridging the digital divide that still exists. In fact, the technological landscape in Moroccan higher education presents both challenges and opportunities. While infrastructure and resources limitations exist, the recent governmental initiative, Digital Morocco 2030 (2024), signals a commitment to technological educational transformation, and e-portfolios emerge as potential catalysts for this broader digital pedagogical revolution.

RESEARCH METHODS

This study investigates the reflective narratives of undergraduate and graduate students enrolled in Educational Technology and Translation courses, offering a nuanced understanding of their e-portfolio experiences. The research study employed a qualitative, descriptive design to investigate student perceptions and attitudes towards e-portfolios, using student reflections as the main data source which were subjected to content and thematic analysis. Data in the form of students' reflections posted on their e-portfolios was subjected first to content analysis for common themes to be identified. To ensure some degree of validity and reliability, this stage was crossed checked by two more colleagues to verify that these themes are representative of the trends expressed by the collected data.

Research Design

This study adopted a qualitative, descriptive design within a practitioner research framework as qualitative research is well-suited for exploring complex social phenomena from the perspectives of those experiencing them (Creswell and Poth, 2018). A descriptive approach was chosen to provide a rich and detailed account of student experiences with e-portfolios. Practitioner research, characterised by its focus on addressing practical issues within a specific context and involving the researcher as an active participant, was deemed appropriate as the researcher was directly involved in the implementation and assessment of the students' e-portfolios (Cochran-Smith and Lytle, 2009). This approach allowed for an in-depth exploration of students' perspectives within their authentic learning environment, informing pedagogical practices and curriculum development. Using their reflections as the primary data source allowed for a direct understanding of the students' lived experiences and perceptions of the e-portfolio process. Content and inductive thematic analysis were selected as analytical tools to systematically identify patterns and themes within the qualitative data.

Research Ethics

The study's research protocol was reviewed and approved by the institutional research ethics committee with which the author is affiliated. Hence, the research adhered to the established ethical principles to ensure the protection, fairness and respect of all participants through the following steps:

- Securing the informed consent of all participants.
- Guaranteeing the confidentiality and anonymity of all participants as well as their data.
- Ensuring that no harm affected the participants.
- Eliminating any form of pressure that could be perceived by the participants given the perceived power dynamics between the researcher and his students.
- Following and adhering to the best practices of digital ethics while accessing and evaluating the content of digital e-portfolios.
- Informing all participants of their right to withdraw at any stage of the study without any repercussions on their academic achievements.

Participants

The participants consisted of two distinct cohorts at the final stage of their education programmes and about to start or progress in a career: undergraduate and graduate students who are all Moroccans in a public university with no study experience abroad. The selection of these two respondent groups was not only influenced by their availability and ease of access but also by the critical factor that the use of e-portfolios will significantly enhance their career transition readiness. For undergraduates, e-portfolios

serve as a bridge between academic learning and entry-level career preparation by showcasing their projects, translation work, and evidence of foundational skills such as organisation, time management, and reflective practice. For graduates, e-portfolios emphasise their advanced and actionable competencies, including expertise in adapting educational technologies, applying research methodologies, reflecting and evaluating their work, integrating diverse skills, and demonstrating goal-setting abilities.

The undergraduate group included final-year students (both male and female, aged 21-34) enrolled in a Professional Bachelor degree in Applied Foreign Language Studies, specifically in the course of Professional Translation. The graduate group consisted of adult students (both male and female, aged 28-38) in their final year of a Master's degree in Teaching English as a Foreign Language, some of whom were practicing teachers of English as a Foreign Language. The e-portfolio was integrated into both of the previously mentioned courses as an ongoing project that requires both cohorts to use this pedagogical tool to show case their work throughout the course duration. The total sample size was 67, with 42 undergraduates and 25 graduates. Participation was voluntary, and informed consent was obtained from all participants before data collection. Participants were assured of the confidentiality of their responses and that their participation would not impact their academic achievement. All enrolled students participated in the study through the submission of their e-portfolios.

However, the sample size may not fully represent the broader student population, and the reliance on self-reported data may introduce biases. Future research should aim to include larger, more diverse samples and explore longitudinal studies to track the long-term impact of e-portfolios on student learning and professional development.

DATA COLLECTION

Students' reflective writing was the primary data source for this research. The e-portfolio prompts included a directive requiring students to add a dedicated 'reflections' or 'blog' section, where they were asked to describe their experiences with the practice of creating and using the e-portfolio. As mentioned in the previous section, the e-portfolio was adopted for both courses as a project that students built, using ready-made websites namely googlesites.com and weebly.com, and kept updating it using work and productions pertaining to various assignments related to the course they were enrolled in. It was a form of formative assessment used for these courses. The open-ended instruction about dedicating a section of the e-portfolio to reflections encouraged students to articulate their thoughts, feelings, and insights regarding the entire experience. To mitigate potential bias related to course grades or evaluation, data collection was intentionally delayed until well after the formal evaluation of the entire course had been completed. This step ensured that students felt free to express their honest opinions without fear of affecting their assessment outcomes.

The findings from this bottom-up thematic analysis are informed by several theoretical frameworks. Constructivism posits that knowledge is actively constructed through experience (Piaget, 1950; Vygotsky, 1978), which resonates with students' reflections on how e-portfolios facilitate active learning and self-reflection. Similarly, self-regulated learning (SRL) emphasises learners' ability to monitor and regulate their own learning processes (Zimmerman, 2002), which is evident in students' intentions to maintain and develop their portfolios over time. Lastly, activity theory highlights the interactions between individuals, tools, and environments in shaping learning experiences (Engeström, 1987). E-portfolios serve as mediating tools within educational contexts that enable students to navigate their learning environments effectively.

DATA ANALYSIS

Data analysis involved a two-stage process, beginning with content analysis followed by thematic analysis of students' reflections on the use of e-portfolios at both graduate and undergraduate educational levels. The process began with the collection of student reflections, which were gathered through written assignments and online submissions. Initially, the reflections were read more than once to gain a comprehensive understanding of the content. This immersion in the data facilitated the identification of preliminary codes that captured significant features of the reflections. For example, students frequently mentioned their initial excitement about the course and the challenges they faced with technology. These codes were then organised into broader themes that have been identified from the data.

The next step involved reviewing these patterns to ensure they accurately represented the data set as a whole. At this stage, two colleagues verified the themes against the content drawn from students' reflections. This process allowed for refinement and consolidation of themes, ensuring that they were both distinct and representative of the students' experiences. Themes such as 'initial excitement,' 'challenges with technology,' 'value of e-portfolios', 'instructor support', and 'future applications' surfaced from the analysis. Finally, illustrative quotations from student reflections were selected to exemplify each theme, providing rich narrative descriptions that supported the findings. This approach aligns with qualitative research methodologies that emphasise the importance of participant voices in understanding their experiences (Braun and Clarke, 2006). The thematic analysis not only highlighted key insights into students' learning experiences but also informed implications for educational practices and future research.

Themes from Students' Reflections

Data analysis of students' reflections revealed the five main themes listed below with sample quotations from students' e-portfolios:

1. Expectation vs. reality: students initially had different expectations about the course content compared to what they experienced. One student said, 'I totally rejoiced at the idea of having such a module... But then when I learned how to use it, things started to make sense'.
2. Technological adaptation: similar to undergraduate students, graduate students faced challenges with technology but found it rewarding. A reflection stated, 'it indeed feels good to have a personal virtual space where one can share their work with the public'.
3. Value of e-portfolios: the importance of e-portfolios as tools for reflection and assessment was emphasised. One student observed, 'collecting summaries, reflections, images, videos... is beneficial for both teachers and students. Hence, e-portfolios offer a structured environment for reflection, prompting students to document learning experiences, articulate insights, and connect academic work to personal and professional goals.
4. Instructor support: the role of the instructor was highlighted as crucial for guidance and motivation. A student remarked, 'our professor's enthusiasm is aspirational and motivational'.
5. Future applications: students recognised how their experiences would inform their future teaching practices. A participant noted, 'as a future teacher, this provides me with more insights into how my students would be dealing with their portfolios'.

Table 1

All Respondents' Perceptions of the Use e-Portfolios

Themes	Description	Percentage of All Respondents
Expectation vs. Reality	Discrepancy between initial expectations and actual course content experience	90
Technological Adaptation	Challenges with technology, ultimately viewed as rewarding	78
Value of e-Portfolios	Positive perception of the value and usefulness of e-portfolios	100
Instructor Support	Instructor's guidance and motivation were considered crucial	85
Future Applications	Perceived relevance of the course experiences to future careers/studies.	75

Based on Table 1, the answers to the two main research questions are as follows:

Perceptions of e-Portfolios and Reflective Practice

Students across both undergraduate and graduate levels expressed a strong belief in the value of e-portfolios as tools for enhancing reflective practice. Many students noted that creating an e-portfolio allowed them to engage in deeper self-reflection about their learning experiences. For instance, one graduate student remarked, 'seeing a personal product which only I can manage pushes me to be more creative, self-reflective, and raises my motivation'. This sentiment was echoed by another student who stated 'the best part of this course was making this e-portfolio which requires a lot of thinking and problem-solving'. Such reflections indicate that students perceive e-portfolios as not just repositories of work but as dynamic platforms that facilitate ongoing reflection and personal growth. They also highlight the importance of e-portfolios as dynamic educational opportunities that transcend traditional documentation and contribute to the students' metacognitive skills engagement by taking ownership of their education.

Indeed, students highlighted the role of e-portfolios in helping them articulate their learning processes and outcomes. One participant noted, 'collecting summaries, reflections, images, videos, and resources is beneficial for both the teachers to keep track of their students' learning outside the classroom and for the students to be more aware of their process and progress'. This illustrates that students recognise the potential of e-portfolios to document their educational journeys effectively. As one student eloquently noted: 'it indeed feels good to have a personal virtual space where one can share their work with the public, learn to be autonomous, as well as give and receive feedback from their colleagues and professors'. The statement encapsulates the core value of e-portfolios, which is to shift learning from a passive, instructor-controlled process to an active, student-driven journey of self-discovery and representation.

Future Educational and Professional Goals

In terms of future implications, students articulated how their experiences with e-portfolios would influence their teaching practices. A graduate student reflected, 'as a future teacher, this provides me with more insights into how my students would be dealing with their portfolios'. This forward-thinking perspective suggests that students are not only focused on immediate benefits but also on how these skills will translate into their professional lives. Additionally, the reflections revealed a desire among students to continue developing their e-portfolios beyond the course. One student expressed enthusiasm about maintaining and enhancing her portfolio: 'I am actually thinking of keeping, developing, refining, and enhancing mine'. This commitment to lifelong learning aligns with the principles of self-regulated learning (SRL), where learners take initiative in managing their educational experiences (Zimmerman, 2002).

Comparison between Undergraduate and Graduate Students

When comparing the reflections of undergraduate and graduate students, some differences appeared regarding their experiences with technology and expectations for using e-portfolios. Undergraduate students often approached the task with initial excitement but also expressed anxiety about using technology effectively. For example, one undergraduate stated, 'I had reservations at first... But then when I learned how to use it, things started to make sense'. In contrast, graduate students tended to have more prior experience with technology integration in education and were more focused on how these tools could enhance their professional development. Despite these differences, both groups shared a common appreciation for instructor support throughout the course. One graduate student noted, 'our professor's enthusiasm is aspirational and motivational', highlighting the importance of effective teaching in facilitating student engagement.

Finally, the reflections from both groups illustrate a transformative educational experience centred around the use of portfolios in higher education. While they share common themes such as excitement about technology and challenges faced during adaptation, differences in emphasis reveal deeper insights into their learning processes and future applications as educators. The reflections underscore the importance of fostering an environment where students feel empowered to take ownership of their learning through innovative tools like e-portfolios while also highlighting the essential role that instructor support plays in facilitating this journey. Table 2 summarises this comparison.

Table 2

Comparison between Undergraduate and Graduate Students

Aspect	Undergraduate Reflections	Graduate Reflections
Technology experience	Initial anxiety, learning curve	Prior experience, more confident
Focus	Basic technology skills, personal growth	Professional development, career enhancement
Common themes	Excitement, challenges, instructor support	Excitement, challenges, instructor support
Educational impact	Transformative learning experience	Transformative learning experience with professional focus

DISCUSSION

Based on the above, it would be safe to say that the qualitative analysis of student reflections on e-portfolios in an Educational Technology and Translation courses reveals significant insights into their learning experiences, challenges, and growth opportunities. While both groups of students expressed initial excitement about integrating technology into their education, they also faced challenges related to technological adaptation and managing expectations versus reality.

For most respondents, e-portfolios served as a powerful tool to track their progress, reflect on their learning journey, and develop a deeper understanding of their scholarly growth. One graduate student highlights the transformative impact of creating an e-portfolio: 'seeing my progress laid out chronologically was eye-opening. Now, creating an e-portfolio for my Educational Technology class feels like a natural evolution of that experience'. This quote underscores how e-portfolios help students visualise their development over time, providing a tangible record of their achievements and areas for improvement.

From a different perspective, an undergraduate student also touches on the theme of learning and growth: 'I can't deny that just as much as I enjoyed this digital assignment, I had some difficulties, but it ultimately helped me learn and grow as a responsible student'. This reflection on the e-portfolio experience highlights the importance of reflections and evaluating personal growth. The challenges faced during the compilation process are part of the learning process, and overcoming these difficulties contributes to the student's overall development.

Thus, the findings underscore the value of e-portfolios as effective tools for fostering personal ownership and reflection among students, enhancing their engagement with course content. Additionally, the critical role of instructor support was mentioned as a key factor influencing student success, highlighting the need for educators to be actively involved in guiding their students through technological challenges.

Comparatively, these findings resonate with existing literature that highlights the importance of personal ownership in learning (Paris and Ayres, 1994) and the role of e-portfolios in promoting continuous personal development (Rebbeck, 2008). As future educators prepare to enter increasingly digital classrooms, the lessons learned from this study emphasise the importance of equipping them with both technological skills and pedagogical strategies that leverage these tools effectively. By integrating e-portfolios into educational practices, institutions can cultivate a generation of reflective, adaptive, and tech-savvy educators ready to meet the demands of modern teaching environments.

IMPLICATIONS

The findings from this qualitative research on students' reflections regarding the use of e-portfolios in higher education in Morocco offer important implications for educational practice and curriculum design.

Above all, the positive feedback regarding e-portfolios indicates that integrating such tools into educational curricula can significantly enhance students' engagement and ownership of their learning. By allowing students to create personalised portfolios, educators can foster a deeper connection to the material, encouraging self-reflection and critical thinking. This aligns with previous research by Paris

and Ayres (1994), which emphasises that portfolios create a sense of personal ownership over one's accomplishments, leading to feelings of pride and responsibility.

In addition, students expressed challenges related to technology use, indicating a need for structured support systems. Educators should consider implementing training sessions or workshops that equip students with the necessary skills to navigate digital tools effectively. This could alleviate frustrations and enhance their overall learning experience, similar to findings by Rebbeck (2008), who noted that e-portfolios serve as a central point for student experiences, reflecting continuous personal development rather than merely serving as a storage of evidence.

Equally important, the reflections highlighted the crucial role of instructor support in guiding students through their learning journeys. Teachers should strive to maintain an enthusiastic and responsive presence in the classroom, providing timely feedback and encouragement to foster a positive learning environment. This is consistent with research indicating that effective teaching strategies significantly impact student motivation and engagement (Hattie, 2009).

Finally, the insights gained from creating e-portfolios are likely to benefit students in their future teaching careers. Educators should emphasise the relevance of these experiences in preparing future teachers to utilise technology effectively in their classrooms, ensuring they are equipped to face similar challenges as their students.

CONCLUSION

In summary, this study offers a thorough and detailed investigation into the views and opinions of both undergraduate and graduate students regarding e-portfolios and how these tools influence the students' ability to engage in reflective practice throughout their learning and experiences. The thematic analysis reveals that both groups view e-portfolios as valuable tools for enhancing their learning experiences, fostering self-reflection, and supporting their future educational and professional goals. Students expressed a strong belief in the importance of e-portfolios as dynamic platforms that facilitate personal growth and ownership of their learning journeys. They highlighted how the process of creating e-portfolios allows them to document not only their achievements but also the challenges they face along the way, ultimately leading to a deeper understanding of their educational progress.

The findings also indicate that while undergraduate students often experienced initial anxiety regarding technology use, graduate students demonstrated greater confidence and familiarity with digital tools. This disparity underscores the necessity for tailored support strategies that address the varying levels of technological competence among students at different academic stages. Furthermore, the critical role of instructor support was identified as a significant factor in enhancing student engagement with e-portfolios, emphasising the need for educators to foster an encouraging learning environment.

While the implications of this research for the Moroccan higher education are profound, the impact of its findings could prove useful beyond the geographical context where it took place. In fact, the findings reported here extend beyond individual student experiences; they suggest that integrating e-portfolios into educational curricula can enhance reflective practices and prepare students for future challenges in their professional lives. By promoting a culture of self-regulated learning and continuous development, e-portfolios can help cultivate reflective practitioners who are well-equipped to navigate the complexities of modern educational environments.

Finally, this research contributes valuable insights into the role of e-portfolios in higher education, emphasising their potential to enhance reflective practice and support students' growth as learners and future educators. E-portfolios represent more than technological interventions; they embody potential mechanisms for pedagogical transformation, addressing critical challenges of educational quality, student engagement, and professional preparation. As educational institutions continue to integrate technology into teaching and learning, understanding the impact of tools like e-portfolios will be essential for fostering effective educational practices.

ACKNOWLEDGMENT

REFERENCES

Abrami, P. C., Bernard, R. M., Bures, E. M., Borokhovski, E., & Tamim, R. M. (2011). Interaction in distance education and online learning: Using evidence and theory to improve practice. *Journal of Computing in Higher Education, 23*(2), 82–103. https://shorturl.at/8p2aF

AIT MAMA. A. (2023). Measuring the impact of e-portfolio assessment on the Moroccan undergraduate semester two EFL students' reading skill at the University of Moulay Ismail: A case study. *Journal of English Language Teaching and Linguistics, 8*(2), 2023, 157-172. http://dx.doi.org/10.21462/jeltl.v8.i2.1051

Anim-Wright, K. (2024). Examining the effect of student engagement on student experience in higher education institutions. *Higher Education Studies*, *14*(1), 70-87. https://doi.org/10.5539/hes.v14n1p70

Baran, E., Correia, A. P., & Thompson, A. (2011). Transforming online teaching practice: Critical analysis of the literature on the roles and competencies of online teachers. *Distance Education, 32*(3), 421–439. https://doi.org/10.1080/01587919.2011.610293

Barrett, H. (2010). 'Balancing the two faces of e-portfolios', *Educação, Formação & Tecnologias, 3*(1), pp. 6–14. https://eft.educom.pt/index.php/eft/article/view/70

Boud, D., & Falchikov, N. (2007). *Rethinking assessment in higher education: Learning for the longer term*. Routledge.

Boud, D., Keogh, R., & Walker, D. (1985). Reflection: Turning experience into learning. In D. Boud, R. Keogh, & D. Walker (Eds.), *Reflection: Turning experience into learning* (pp. 7-17). Kogan Page.

Braun, V., & Clarke, V. (2006). 'Using thematic analysis in psychology', *Qualitative Research in Psychology, 3*(2), pp. 77-101. https://doi.org/10.1191/1478088706qp063oa

Broadbent, J., & Poon, W. L. (2015). Self-regulated learning strategies & academic achievement in online higher education environment. *The Internet and Higher Education, 27*, pp. 1–13. https://doi.org/10.1016/j.iheduc.2015.04.007

Bourkoukou, O., & Elbachari, E. (2016). E-learning personalization based on collaborative filtering and learner's preference. *International Journal of Advanced Computer Science and Applications*, *11*(11), 1565–1581. https://shorturl.at/gtZLn

Buzzetto-Hollywood, Nicole. (2010). *The e-portfolio paradigm: Informing, educating, assessing, and managing with e-portfolios*. https://shorturl.at/zDFbW

Challis, D. (2005). Towards the mature e-portfolio: Some implications for higher education. *Canadian Journal of Learning and Technology, 31*(3). https://doi.org/10.21432/T2MS41

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin, 39*(7), pp. 3 – 7. ed282491.tif.pdf

Cochran-Smith, M., & Lytle, S. L. (2009). *Inquiry as stance: Practitioner research for the next generation*. Teachers College Press.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches*. Sage publications.

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute. https://learningpolicyinstitute.org/sites/default/files/product-files/Effective_Teacher_Professional_Development_REPORT. pdf

Digital Morocco 2030. (2024). *The Ministry of Digital Transition and Administrative Reform*. https://www.mmsp.gov.ma/sites/default/files/2024-09/PlaquetteInstitutionnel_18092024_Ang .pdf

Engeström, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Orienta-Konsultit.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist, 34*(10), 906–911. https://doi.org/10.1037/0003-066X.34.10.906

Hartnell-Young, E., & Morriss, M. (2007). *Digital portfolios: Powerful tools for promoting reflection, evidence, and achievement*. Corwin Press.

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.

Huang, F., Teo, T., & Zhou, M. (2020). Chinese students' intentions to use the internet-based technology for learning. *Educational Technology Research and Development, 68,* 575–591. https://doi.org/10.1007/s11423-019-09695-y

JISC. (2014). *Developing digital literacies*. Jisc. https://digitalcapability.jiscinvolve.org/wp/files/2014/09/JISC_REPORT_Digital_Literacies_280714_PRINT.pdf

Kennedy, G., Judd, T., Churchward, A., Gray, K., & Krause, K. L. (2008). First year students' experiences with technology: Are they really digital natives?. *Australasian Journal of Educational Technology, 24*(1). https://doi.org/10.14742/ajet.1233

Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge?. *Contemporary Issues in Technology and Teacher Education, 9*(1), pp. 60–70.

Lorenzo, G., & Ittelson, J. (2005). An overview of e-portfolios. *EDUCAUSE Learning Initiative*. An Overview of E-Portfolios | EDUCAUSE Library

Mathew, N. S., Kumar, S., & Raut, R. D. (2019). E-portfolios for reflective learning and assessment: A systematic literature review. *Education and Information Technologies*, *24*(6), 3433-3457.

Meyer, E., Abrami, P. C., Wade, C. A., Aslan, O., & Deault, L. (2010). Improving literacy and metacognition with electronic portfolios: Teaching and learning with epearl. *Computers & Education, 55*(1), 84–91. https://doi.org/10.1016/j.compedu.2009.12.005

Moon, J. A. (2013). *Reflection in learning and professional development: A handbook*. Routledge.

Paris, S. G., & Ayres, L. R. (1994). *Becoming reflective students and teachers with portfolios and authentic assessment*. American Psychological Association.

Piaget, J. (1950). *The psychology of intelligence*. Routledge.

Rebbeck, G. (2008). E-portfolios: A reflection on student learning development. *JISC*. (29-32) JISC_effective_practice_e-portfolios.pdf

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.

Sibson, R., & Riebe, L. (2022). The role of e-Portfolios in shaping professional identity and employability. In *Sport Management Education: Global Perspectives and Implications for Practice* (pp. 45–57). Taylor & Francis. https://doi.org/10.4324/9781003140078-4

Slade, C., Kelly, K., Mize, M., & Stuart, H. (2020, October 29-30). *In-depth consideration of digital ethics in using e-Portfolios: Resource development by the AAEEBL Digital Ethics e-Portfolio Task Force* [Paper presentation]. Australian e-Portfolio Forum, Digital Identity—Ethics and Experience, Virtual event.

Stefani, L., Mason, R., & Pegler, C. (2007). *The educational potential of e-portfolios: Supporting personal development and reflective learning*. Routledge.

Tynjälä, P., Virtanen, V., & Salmela-Aro, K. (2012). The role of e-portfolios in supporting learning and academic development. *European Journal of Education*, *47*(4), 563-574. https://doi.org/10. 1111/ejed.12004

Van Deursen, A. J. A. M., & Van Dijk, J. A. G. M. (2014). *Digital skills: Unlocking the information society*. Palgrave Macmillan.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Ward, J., & Moser, C. (2019). *Digital storytelling in higher education: International perspectives*. Routledge.

Yorke, M. (2016). The development and initial use of a survey of student 'belongingness', engagement and self-confidence in UK higher education. *Assessment & Evaluation in Higher Education, 41*(1), 154-166. https://doi.org/10.1080/02602938.2014.990415

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into Practice, 41*(2), pp. 64–70. https://doi.org/10.1207/s15430421tip4102_2